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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NGUYEN, DUNG V

ART UNIT PAPER NUMBER

3723

DATE MAILED: 08/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/661,385

Applicant(s)

SEO ET AL.

Examiner

Dung V. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9, 11, 12, 17, 20-25, 28, 31 and 32 is/are rejected.
- 7) ☒ Claim(s) 8, 10, 13-16, 18, 19, 26, 27, 29 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/3/04&7/21/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group I, claims 1-32, in the reply filed on 21 June 2005 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 5-7 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Gadd (WO 03/055654), as evidenced by Hashish et al (US 6,464,567). Gadd discloses a singulation engine for singulating a substrate 1 into a plurality of smaller component parts comprising a cutting apparatus such as an abrasive fluid jet 5 to discharge an individual jet stream in the form of a beam for cutting through the substrate 1 at the same time, a chuck assembly 2 configured to hold and support the substrate 1 and the smaller component parts from therefrom before, during and after the jet stream 5 cuts through the substrate 1, wherein slurry includes abrasive and water, wherein the cutting apparatus is configured to move in a linear manner order to provide a linear cutting path, wherein the chuck assembly 2 includes two chucks, each chuck having a jet stream opening 6 disposed therethrough for allowing the jet stream 5 to pass after

cutting through the substrate 1, wherein the chuck 2 is a vacuum chuck, wherein the chuck assembly 2 includes a first chuck 2A and second chuck 2B, the first chuck 2A being configured to hold the substrate 1 when the substrate 1 is being cut by the jet steam 5 in a first direction, the second chuck 2B being configured to hold the substrate 1 when the substrate 1 is being cut by the jet steam 5 in a second direction orthogonal to the first direction. However, Gadd does not specify that the jet stream cutting apparatus including manifold and nozzle. Hashish et al discloses a fluid jet cutting apparatus including manifold 52 and nozzle 30 (note Fig. 1, col. 3, line 29 to col. 4, line 44).

4. Claims 11 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Gadd (WO 03/055654). Gadd discloses a vacuum chuck assembly 2 configured to hold an unsingulated substrate 1 and the singulated substrate parts cut therefrom before, during and after jet stream singulation comprising a first chuck 2A configured to hold the substrate 1 during x axis cutting, the first chuck 2A including a plurality of slots 6 providing a space through which a jet stream 5 passes when cutting in a first direction, a second chuck 2B configured to hold the substrate 1 during y axis cutting, the second chuck 2B including a plurality of slots 6 providing a space through which a jet stream 5 passes when cutting in a second direction that is orthogonal to the first direction (note

5. Claims 23, 31, 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Quirke et al (USPN 6,676,486). Quirke et al discloses a method of singulating a substrate 100 having a plurality of integrated circuit 102 formed thereon comprising producing a jet stream in a form of a beam being sufficient to cut the substrate, directing

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the jet stream over the surface of the substrate, selectively operating the jet streams so as to cut the substrate into the plurality of integrated circuit (note Fig. 4, col. 2, line 34 to col. 3, line 27).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 4, 12, 17, 24, 25 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gadd (WO 03/055654) in view of Quirke (USPN 6,676,486). Gadd discloses the claimed invention as described above, however, Gadd does not disclose a pump and a holding tank being configured to store and receive slurry, the pump being configured to pump the slurry from holding tank to manifold or the smaller component parts correspond to photonic devices. Quirke discloses a pump and a holding tank 218 being configured to store and receive slurry, the pump being configured to pump the slurry from holding tank 218 to manifold 208 and smaller component parts correspond to photonic devices (note Fig. 4, col. 6, lines 32-64). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the singulation engine of Gadd with a pump and storage tank as disclosed by Quirke in order to transfer high pressure mixture of abrasive and water to the cutting head.

Allowable Subject Matter

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8. Claims 8, 10, 13-16, 18, 19, 26, 27, 29 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung V. Nguyen whose telephone number is 571-272-4490. The examiner can normally be reached on M-F, 7:00-3:30.

10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J. Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DVN
August 12, 2005


DUNG VAN NGUYEN
PRIMARY EXAMINER